

Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	Unknown
		Filing Date	January 21, 2000
		First Named Inventor	Jeremy Minshull
		Group Art Unit	Unknown
		Examiner Name	Unknown
		Attorney Docket Number	02-020622US

JC525 U.S. PTO
09/49/643
01/24/00

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code (if known)			

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS							
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					T
<i>EW</i>	AA	Ji, Guangyung and Silver, Simon, (1992) "Reduction of arsenate to arsenite by the ArsC protein of the arsenic resistance operon of <i>Staphylococcus aureus</i> plasmid pI258" <i>PNAS</i> 89:9474-9478.					
<i>EW</i>	AB	Silver, Simon (date unknown) "Resistance Systems and Detoxification of Toxic Heavy Metals" <u>Unknown:308-339.</u>					

Examiner Signature	<i>EW/J</i>	Date Considered	<i>6/29/01</i>
--------------------	-------------	-----------------	----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/189,103
		Filing Date	November 9, 1998
		First Named Inventor	Jeremy Minshull
		Group Art Unit	1635
		Examiner Name	Unassigned
		Attorney Docket Number	02-020620US

JC525 U.S. 641 PRO
01/24/00

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
ew	AD	5,605,793		Stemmer	02-25-1997
↓	AE	5,811,238		Stemmer et al.	09-22-1998

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office	Number	Kind Code (if known)		T
ew	AF	WO	95/17413		--English Translation	06/29/1995

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS						
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				

Examiner Signature	ew	Date Considered	6/29/01
--------------------	----	-----------------	---------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	09/189,103
		Filing Date	November 9, 1998
		First Named Inventor	Jeremy Minshull
		Group Art Unit	1655
		Examiner Name	Whisenant, E.
		Attorney Docket Number	02-020620US
			jc525 U.S. PTO 09/49/643 01/24/00

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	U.S. Patent Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
EW	AA	5,939,250		Short, Jay M.	08-17-1999
↓	AB	5,958,672		Short, Jay M.	09-28-1999
↓	AC	5,965,408		Short, Jay M.	10-12-1999

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
EW	AD	WO	97/35966		Maxygen, Inc.	10-02-1997		
↓	AE	WO	98/13485		Maxygen, Inc.	04-02-1998		
↓	AF	WO	98/13487		Maxygen, Inc.	04-02-1998		
↓	AG	WO	98/27230		Maxygen, Inc.	06-25-1998		
↓	AH	WO	98/31837		Maxygen, Inc.	07-23-1998		
↓	AI	WO	98/36080		Maxygen, Inc.	08-20-1998		
↓	AJ	EP	0911396A2		Maxygen, Inc.	04-28-1999		
↓	AK	WO	99/21979		Maxygen, Inc.	05-06-1999		
↓	AL	EP	0911396A3		Maxygen, Inc.	05-06-1999		
↓	AM	WO	99/23107		Maxygen, Inc.	05-14-1999		
↓	AN	EP	0934999A1		Maxygen, Inc.	08-11-1999		

Examiner Signature	<i>EW</i>	Date Considered	<i>6/29/01</i>
--------------------	-----------	-----------------	----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<p>Substitute for form 1449A-B/PTO</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p>(use as many sheets as necessary)</p>	Complete if Known	
	Application Number	09/189,103
	Filing Date	November 9, 1998
	First Named Inventor	Jeremy Minshull
	Group Art Unit	1655
	Examiner Name	Whisenant, E.
Attorney Docket Number	02-020620US	

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T

Examiner
Signature

Revol A

Date
Considered

6/29/01

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<p>Substitute for form 1449A-B/PTO</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p>(use as many sheets as necessary)</p>	Complete if Known	
	Application Number	09/189,103
	Filing Date	November 9, 1998
	First Named Inventor	Jeremy Minshull
	Group Art Unit	1635
	Examiner Name	Unassigned
	Attorney Docket Number	02-020620US

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

**Examiner
Signature**

Euryz

**Date
Considered**

6/29/00

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449A-B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>		Complete if Known	
		Application Number	09/189,103
		Filing Date	November 9, 1998
		First Named Inventor	Jeremy Minshull
		Group Art Unit	1635
		Examiner Name	Unassigned
		Attorney Docket Number	02-020620US

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
ED ewj	AD	CRAMERI A ET AL: "Molecular evolution of an arsenate detoxification pathway by DNA shuffling" NATURE BIOTECHNOLOGY, vol. 15, May 1997, pages 436-438, XP002082183	

Examiner Signature	<i>ewj</i>	Date Considered	<i>6/29/01</i>
--------------------	------------	-----------------	----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)		Attorney Docket No. 18097-020600	Serial No.: 08/650,400
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: JEREMY MINSHULL et al.	
		Filing Date: 05/20/96	Group: 1634

U.S. 69/490843
52969/01/24/00

Reference Designation		U.S. PATENT DOCUMENTS				
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
GW AA	5,032,514	7/16/91	Anderson et al.	435	138	08/08/88
AB	5,093,257	03/03/92	Gray	435	202	11/01/89
AC	5,652,116	07/29/97	Grandi et al.	435	69.1	07/06/94
AD	5,223,408	06/29/93	Goeddel et al.	435	69.3	07/11/91
AE	5,360,728	11/01/98	Prasher, D.	435	189	12/01/92
AF	5,541,309	07/30/96	Prasher, D.	536	23.2	10/28/94
AG	5,356,801	10/18/94	Rambosek et al.	435	195	07/09/93
AH	5,279,952	08/27/94	Wu, K.C.	435	172.3	08/09/91

FOREIGN PATENT DOCUMENTS					
	Document No.	Date	Country	Class	Sub-class
AI	0 252666 B1	01/13/88	Europe		
AJ	WO 90/07576	07/12/90	PCT		
AK	WO 91/01087	02/07/91	PCT		
AL	WO 95/17413	06/29/95	PCT		
AM	WO 97/07205	02/27/97	PCT		
AN	WO95/22625	8/24/95	PCT		

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)	
AO	Appleyard, V.C.L. et al., "Secondary metabolite production in filamentous fungi displayed," <u>Mol. Gen. Genet.</u> 247:338-342 (1995)
AP	Arkin et al., "AN ALGORITHM FOR PROTEIN ENGINEERING: SIMULATIONS OF RECURSIVE ENSEMBLE MUTAGENESIS" <u>Proc. Natl. Acad. Sci. USA</u> 89:7811-7815 (1992).
AQ	Armstrong, G.A., "Eubacteria Show Their Tru Colors: Genetics of Carotenoid Pigment Biosynthesis from Microbes to Plants," <u>J. Bacteriol.</u> 176(16):4795-4802 (1994)
AR	Arnold, F.H., "Protein engineering for unusual environments," <u>Cr. Opin. Biotechnol.</u> 4:450-455 (1993)
AS	Backman, K. et al., "Genetic Engineering of Metabolic Pathways Applied to the Production of Phenylalanine," <u>Ann. NY Acad. Sci.</u> 589:16-24 (1990)

FORM PTO-1449 (Modified)		Attorney Docket No. 18097-020600	Serial No.:08/650,400
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE		Applicant: JEREMY MINSHULL et al.	
STATEMENT (Use several sheets if necessary)		Filing Date:05/20/96	Group: 1634
<i>lrv</i>	AT	Bailey, J.E., "Toward a Science of Metabolic Engineering," <u>Science</u> 252:1668-1675 (1991)	
	AU	Beaudry et al., "DIRECTED EVOLUTION OF AN RNA ENZYME" <u>Science</u> 257:635-641 (1992).	
	AV	Berger et al., "PHOENIX MUTAGENESIS: ONE-STEP REASSEMBLY OF MULTIPLY CLEAVED PLASMIDS WITH MIXTURES OF MUTANT AND WILD-TYPE FRAGMENTS" <u>Anal. Biochem</u> 214:571-579 see pages 571-578 (1993).	
	AW	Berkhout et al., "IN VIVO SELECTION OF RANDOMLY MUTATED RETROVIRAL GENOMES" <u>Nucleic Acids Research</u> 21:5020-5023 Number 22 (1993).	
	AX	Botella, J.A. et al., "A cluster of structural and regulatory genes for light-induced carotenogenesis in <i>Myxococcus xanthus</i> ," <u>Eur. J. Biochem.</u> 233:238-248 (1995)	
	AY	Boudrant, J., "Microbial processes for ascorbic acid biosynthesis: a review," <u>Enzyme Microb. Technol.</u> 12:322-329 (1990)	
	AZ	Brenner, V. et al., "Genetic construction of PCB degraders," <u>Biodegradation</u> 5:359-377 (1994)	
	BA	Bryant, C. et al., "Cloning, Nucleotide Sequence, and Expression of the Nitroreductase Gene from <i>Enterobacter Cloacae</i> ," <u>J. Biol. Chem.</u> 266(7):4126-4130 (1991)	
	BB	Cadwell et al., "RANDOMIZATION OF GENES BY PCR MUTAGENESIS" <u>PCR Methods and Applications</u> 2:28-33 (1992).	
	BC	Cameron, D.C. et al., "Cellular and Metabolic Engineering," <u>Applied Biochem. Biotech.</u> 38:105-140 (1993)	
	BD	Chakrabarty, A.M., "Microbial Degradation of Toxic Chemicals: Evolutionary Insights and Practical Considerations," <u>Am. Soc. Micro. Biol. News</u> 62:130-137 (1996)	
	BE	Chater, K.F., "The improving prospects for yield increase by genetic engineering in antibiotic-producing streptomycetes," <u>Bio/Technology</u> 8:115-121 (1990)	
	BF	Chen, C.W. et al., "Cloning and Expression of a DNA sequence conferring cepamycin C production," <u>Bio/Technology</u> 6:1222-1224 (1988)	
	BG	Chen, K. et al., "Tuning the activity of an enzyme for unusual environments: Sequential random mutagenesis of subtilisin E for catalysis in dimethylformamide," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 90:5618-5622 (1993)	
	BH	Calogero Sabina et al., "In Vivo Recombination and the Production of Hybrid Genes," <u>Microbiology letters</u> , 1992, Volume 97, pp. 41-44.	
	BI	Caren Robert et al., "Efficient Sampling of Protein Sequence Space for Multiple Mutants," <u>Biotechnology</u> , May 12, 1994, Volume 12, pp. 517-520.	

FORM PTO-1449 (Modified)		Attorney Docket No. 18097-020600	Serial No.:08/650,400
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: JEREMY MINSHULL et al.	
		Filing Date:05/20/96	Group: 1634
BJ	Dacre, J.C., "Nonspecificity of the Gibbs Reaction," <u>Anal. Chem.</u> 43(4):589-591 (1971)		
BK	Denome, S.A. et al., "Dibenzothiophene and Naphthalene in <i>Pseudomonas</i> Strains: Complete DNA Sequence of an Upper Naphthalene Catabolic Pathway," <u>J. Bacteriol.</u> 175(21):6890-6901 (1993)		
BL	de Souza, M.L. et al., "Cloning, Characterization, and Expression of a Gene Region from <i>Pseudomonas</i> sp. Strain ADP Involved in the Dechlorination of Atrazine," <u>Appl. Environ. Micro.</u> 61(9):3373-3378 (1995)		
BM	Delagrange Simon et al., "Recursive Ensemble Mutagenesis," <u>Protein Engineering</u> , 1993, Volume 6, Number 3, pp. 327-331.		
BN	Eaton, R.W. et al., "Formation of Indigo and Related Compounds from Indolecarboxylic Acids by Aromatic Acid-Degrading Bacteria: Chromogenic Reactions for Cloning Genes Encoding Dioxygenases That Act on Aromatic Acids," <u>J. Bacteriol.</u> 177(23):6983-6988 (1995)		
BO	Erickson B.D. et al., "Enhanced Biodegradation of Polychlorinated Biphenyls after Site-Directed Mutagenesis of a Biphenyl Dioxygenase Gene," <u>App. Environ. Micro.</u> 59(11):3858-3862 (1993)		
BP	Evnin, L.B. et al., "Substrate specificity of trypsin investigated by using a genetic selection," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 87:6659-6663 (1990)		
BQ	Fernandez-Lafuente R. et al., "Additional stabilization of penicillin G acylase-agarose derivatives by controlled chemical modification with formaldehyde," <u>Enzyme Microb. Technol.</u> 14:489-495 (1992)		
BR	Ford, T. et al., "Metal-microbe interactions," <u>Bioextraction and Biodeterioration of Metals</u> , p. 1-23		
BS	Furukawa K. et al., "Gene-specific transposon mutagenesis of the biphenyl/polychlorinated biphenyl-degradation-controlling <i>bph</i> operon in soil bacteria," <u>Gene</u> 98:21-28 (1991)		
BT	Furukawa K. et al., "Gene Components Responsible for Discrete Substrate Specificity in the Metabolism of Biphenyl (<i>bph</i> Operon) and Toluene (<i>tod</i> Operon)," <u>J. Bact.</u> 175(16):5224-5232 (1993)		
BU	Furukawa K. et al., "Efficient Degradation of Trichloroethylene by a Hybrid Aromatic Ring Dioxygenase," <u>J. Bacteriol.</u> 176(7):2121-2123 (1994)		
BV	Goguen, B. et al., "Clonogenic cytotoxicity testing by microdrop encapsulation," <u>Nature</u> 363:189-190 (1995)		
BW	Hart, H.E. et al., "Scintillation proximity assay (SPA) - a new method of immunoassay," <u>Mol. Immunol.</u> 16:265-267 (1979)		
BX	Hassan, H.M. et al., "Intracellular Production of Superoxide Radical and of Hydrogen Peroxide by Redox Active Compounds," <u>Arch. Bioch. Biop.</u> 196(2):385-395 (1979)		

FORM PTO-1449 (Modified)

Attorney Docket No.
18097-020600

Serial No.: 08/650,400

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE

STATEMENT

(Use several sheets if necessary)

Applicant: JEREMY MINSHULL et al.

Filing Date: 05/20/96

Group: 1634

CA	Hayase N. et al., "Pseudomonas putida KF715 bphABCD Operon Encoding Biphenyl and Polychlorinated Biphenyl Degradation: Cloning, Analysis, and Expression in Soil Bacteria," <i>J. Bacteriol.</i> 172(2):1160-1164 (1990)
CB	Hermes et al., "SEARCHING SEQUENCE SPACE BY DEFINABLY RANDOM MUTAGENESIS: IMPROVING THE CATALYTIC POTENCY OF AN ENZYME" <i>Proc. Natl. Acad. Sci. USA</i> 87:696-700 (1990).
CC	Heim et al., "Wavelength Mutations and Posttranslational Autoxidation of Green Fluorescent Protein," <i>Proc. Natl. Acad. Sci. USA</i> 91:12504 (1994).
CD	Hofer, B. et al., "The biphenyl/polychlorinated biphenyl-degradation locus (bph) of <i>Pseudomonas</i> sp. LB400 encodes four additional metabolic enzymes," <i>Gene</i> 144:9-16 (1994)
CE	Hopwood, D.A., "Antibiotics: opportunities for genetic manipulation," <i>Phil. Trans. R. Soc. Lond.</i> B324:549-562 (1989)
CF	Hoshino T. et al., "Molecular Cloning and Sequence Analysis of the crtB Gene of <i>Thermus Thermophilus</i> HB27, an Extreme Thermophile Producing Carotenoid Pigments," <i>Appl. Environ. Microbiol.</i> 59(9):3150-3153 (1993)
CG	Hunter, C.N. et al., "Introduction of New Carotenoids into the Bacterial Photosynthetic Apparatus by Combining the Carotenoid Biosynthetic Pathways of <i>Erwinia herbicola</i> and <i>Rhodobacter sphaeroides</i> ," <i>J. Bacteriol.</i> 176(12):3692-3697 (1994)
CH	Hutchinson, C.R., "Prospects for the Discovery of New (Hybrid) Antibiotics by Genetic Engineering of Antibiotic-Producing Bacteria," <i>Med. Res. Rev.</i> 8(4):557-567 (1988)
CI	Hutchinson, C.R. et al., "Drug Development through the Genetic Engineering of Antibiotic-Producing Microorganisms," <i>Ann. NY Acad. Sci.</i> 656:78-93 (1991)
CJ	Hutchinson, C.R., "Drug Synthesis by Genetically Engineered Microorganisms," <i>Bio/Technology</i> 12:375-308 (1994)
CK	Ji, G. et al., "Bacterial resistance mechanisms for heavy metals of environmental concern," <i>J. Ind. Micro.</i> 14:61-75 (1995)
CL	Jones et al., "Recombinant Circle PCR and Recombination PCR for Site-Specific Mutagenesis Without PCR Product Purification," <i>BioTechniques</i> 12(4): pp.528-534 (1992).
CM	Kim et al., "HUMAN IMMUNODEFICIENCY VIRUS REVERSE TRANSCRIPTASE" <i>The Journal of Biological Chemistry</i> 271, No. 9 pp. 4872-4878 (1996).
CN	Kajiwara, S. et al., "Isolation and functional identification of a novel cDNA for astaxanthin biosynthesis from <i>Haematococcus pluvialis</i> , and astaxanthin synthesis in <i>Escherichia coli</i> ," <i>Plant Mol. Bio.</i> 29:343-352 (1995)

FORM PTO-1449 (Modified)		Attorney Docket No. 18097-020600	Serial No.:08/650,400
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE		Applicant: JEREMY MINSHULL et al.	
STATEMENT (Use several sheets if necessary)		Filing Date:05/20/96	Group: 1634
CO	Kato, F. et al., "Carotenoid synthesis in <i>Streptomyces setonii</i> ISP5395 is induced by the gene <i>crtS</i> , whose product is similar to a sigma factor," <u>Mol. Genet.</u> 247:387-390 (1995)		
CP	Kellogg, S.T. et al., "Plasmid Assisted Molecular Breeding: New Technique for Enhanced Biodegradation of Persistent Toxic Chemicals," <u>Science</u> 214:1133-1135 (1981)		
CQ	Kleinkauf, H. et al., "A nonribosomal system of peptide biosynthesis," <u>Eur. J. Biochem.</u> 236:335-351 (1996)		
CR	Krawiec, S., "Bacterial desulfurization of thiophenes: screening techniques and some speculations regarding the biochemical and genetic bases," <u>Devl. Indust. Microbiol.</u> 31:103-114 (1990)		
CS	Lang, H.P. et al., "Complete DNA Sequence, Specific Tn5 Insertion Map, and Gene Assignment of the Carotenoid Biosynthesis Pathway of <i>Rhodobacter sphaeroides</i> ," <u>J. Bacteriol.</u> 177(8):2064-2073 (1995)		
CT	Leung et al., "A METHOD FOR RANDOM MUTAGENESIS OF A DEFINED DNA SEGMENT USING A MODIFIED POLYMERASE CHAIN REACTION" 1:11-15, see pp. 11-14 (1989).		
CU	Liao, J.C., "Modelling and analysis of metabolic pathways," <u>Curr. Opin. Biotech.</u> 4:211-216 (1993)		
CV	Mandelbaum, R.T. et al., "Isolation and Characterization of a <i>Pseudomonas</i> sp. That Mineralizes the s-Triazine Herbicide Atrazine," <u>Appl. Environ. Micro.</u> 61(4):1451-1457 (1995)		
CW	Marks James et al., "BY-PASSING IMMUNIZATION: BUILDING HIGH AFFINITY HUMAN ANTIBODIES BY CHAIN SHUFFLING" <u>Bio/Technology</u> 10:779-782 (1992).		
CX	Marrs, B., "Mobilization of the Genes for Photosynthesis from <i>Rhodopseudomonas capsulata</i> by a Promiscuous Plasmid," <u>J. Bacteriol.</u> 146(3):1003-1012 (1981)		
DA	Martin, L. et al., "Cloning and sequencing of the <i>pac</i> gene encoding he penicillin G acylase of <i>Bacillus megaterium</i> ATCC 14945," <u>FEMS Microbiol. Lett.</u> 125:287-292 (1995)		
DB	Matthysse, A.G. et al., "Genes Required for Cellulose Synthesis in <i>Agrobacterium tumefaciens</i> ," <u>J. Bacteriol.</u> 177(4):1069-1075 (1995)		
DC	McDaniel, R. et al., "Engineered Biosynthesis of Novel Polyketides," <u>Science</u> 262:1546-1550 (1995)		
DD	Meyerhans Andreas et al., "DNA Recombination during PCR," <u>Nucleic Acids Research</u> , 1990, Volume 18, Number 7, pp. 1687-1691.		
DE	Misawa, N. et al., "Structure and Functional Analysis of a Marine Bacterial Carotenoid biosynthesis Gene Cluster and Astaxanthin Biosynthetic Pathway Proposed at the Gene Level," <u>J. Bacteriol.</u> 177(22):6576-6584 (1995)		
DF	Moore, J.C. et al., "Directed evolution of a para-nitrobenzyl esterase for aqueous-organic solvents," <u>Nature Biotechnology</u> 14:458-467 (1996)		

FORM PTO-1449 (Modified)

Attorney Docket No.
18097-020600

Serial No.: 08/650,400

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT
(Use several sheets if necessary)

Applicant: JEREMY MINSHULL et al.

Filing Date: 05/20/96

Group: 1634

DG	Murdock, D. et al., "Construction of Metabolic Operons Catalyzing the <i>In Vitro</i> Biosynthesis of Indigo in <i>Escherichia coli</i> ," <i>Bio/Technology</i> 11:381-386 (1993)
DH	Nisbet, L.J. et al., "Developments in Microbial Products Screening," <i>Ann. Rep. Med. Chem.</i> 21:149-157 (1986)
DI	Olivant et al., "CLONING OF RANDOM-SEQUENCE OLIGODEOXYNUCLEOTIDES" <i>Gene</i> 44:177-183 (1988).
DJ	Omura, S., "Philosophy of new Drug Discovery," <i>Microbiol. Rev.</i> 50(3):259-279 (1986)
DK	Pauw, A.S., "Improvement of <i>Rhizogium</i> Inoculants by Mutation, Genetic Engineering and Formulation," <i>Biotech. Adv.</i> 9:173-184 (1991)
DL	Piepersberg, W., "Pathway Engineering in Secondary Metabolite-Producing Actinomycetes," <i>Crit. Rev. Biotechnol.</i> 14:251-285 (1994)
DM	Poirier, Y. et al., "Polyhydroxybutyrate, a Biodegradable Thermoplastic, Produced in Transgenic Plants," <i>Science</i> 256:520-523 (1992)
DN	Pompon Denis et al., "Protein Engineering by cDNA Recombination in Yeasts: Shuffling of Mamalian Cytochrome P-450 Functions," <i>Gene</i> 1989, Volume 83. pp. 15-24.
DO	Powell, K.T. et al., "Gel microdroplets and flow cytometry: Rapid determination of antibody secretion by individual cells within a cell population," <i>Bio/Technology</i> 8:333-337 (1990)
DP	Rawlings, D.E. et al., "Mining with Microbes," <i>Bio/Technology</i> 13:773-778 (1995)
DQ	Rees, W.D. et al., "A molecular biological approach to reducing dietary amino acid needs," <i>Bio/Technology</i> 8:629-633 (1990)
DR	Reidhaar-Olson et al., "COMBINATORIAL CASSETTE MUTAGENESIS AS A PROBE OF THE INFORMATIONAL CONTENT OF PROTEIN SEQUENCES" <i>Science</i> 241:53-57 (1988).
DS	Roa et al., RECOMBINATION AND POLYMERASE ERROR FACILITATE RESTORATION OF INFECTIVITY IN BROME MOSAIC VIRUS" <i>Journal of Virology</i> No. 2 67:969-979 (1993).
DT	Sanseverino, J. et al., "Plasmid-Mediated Mineralization of Naphthalene, Phenanthrene, Anthracene," <i>Applied Environ. Micro.</i> 59(6):1931-1937 (1993)
DU	Sarthy, A.V. et al., "Expression of the <i>Escherichia coli</i> Xylose Isomerase Gene in <i>Saccharomyces cerevisiae</i> ," <i>Appl. Environ. Micro.</i> 53(9):1996-2000 (1987)
DV	Scherrer, S. et al., "Periplasmic aggregation limits the proteolytic maturation of the <i>Escherichia coli</i> Penicillin G amidase precursor polypeptide," <i>Appl. Microbiol. Biotechnol.</i> 42:85-91 (1994)
DW	Selifonova, O.V. et al., "Use of an <i>ibp-lux</i> Fusion To Study Regulation of the Isopropylbenzene Catabolism Operon of <i>Pseudomonas putida</i> RE204 and To Detect Hydrophobic Pollutants in the Environment," <i>Appl. Environ. Microbiol.</i> 62(3):778-783 (1986)

FORM PTO-1449 (Modified)

Attorney Docket No.
18097-020600

Serial No.:08/650,400

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT
(Use several sheets if necessary)

Applicant: JEREMY MINSHULL et al.

Filing Date:05/20/96 Group: 1634

DX	Silver, S. et al., "Newer Systems for Bacterial Resistances to Toxic Heavy Metals," <u>Environ. Health Perspect.</u> 102:107-113 (1994)
DY	Simon, M.J. et al., "Sequences of genes encoding naphthalene dioxygenase in <u>Pseudomonas putida</u> strains G7 and NCIB 9816-4," <u>Gene</u> 127:31-37 (1993)
DZ	Simpson, T.W. et al., "Two paradigms of metabolic engineering applied to amino acid biosynthesis," <u>Biochem. Soc. Trans.</u> 23:381-387 (1995)
EA	Smith, D.J. et al., "Cloning and heterologous expression of the penicillin biosynthetic gene cluster from <u>Penicillium chrysogenum</u> ," <u>Bio/Technology</u> 8:39-41 (1990)
EB	Steele, D.B. et al., "Techniques for selection of industrially important microorganisms," <u>Ann. Rev. Microbiol.</u> 45:89-106 (1991)
EC	Stemmer, W.P.C., "Rapid Evolution of a Protein In Vitro by DNA Shuffling," <u>Nature</u> 370:389-391 (1994).
ED	Stemmer, W.P.C., "DNA Shuffling by Random Fragmentation and Reassembly: In Vitro Recombination for Molecular Evolution," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 91:10747-10751 (1994).
EE	Stemmer et al., "SELECTION OF AN ACTIVE SINGLE CHAIN Fv ANTIBODY FROM A PROTEIN LINKER LIBRARY PREPARED BY ENZYMATIC INVERSE PCR" <u>BIOTECHNIQUES</u> 14:256-265 (1992).
EF	Stephanopoulos, G. et al., "Metabolic engineering - methodologies and future prospects," <u>Trends Biotech.</u> 11:392-396 (1993)
EG	Stephanopoulos, G., "Metabolic engineering," <u>Curr. Opin. Biotech.</u> 5:196-200 (1994)
EH	Tabata, K. et al., "A carotenogenic gene cluster exists on a large plasmid in <u>Thermus thermophilus</u> ," <u>FEBS Letts.</u> 341:251-255 (1994)
EI	Timmis, K.N. et al., "Designing microorganisms for the Treatment of Toxic Wastes," <u>Ann. Rev. Microbiol.</u> 48:525-557 (1994)
EJ	Wackett, L.P. et al., "Metabolism of polyhalogenated compounds by a genetically engineered bacterium," <u>Nature</u> 368:627-629 (1994)
EK	Wang et al., "Identification of Glial Filament Protein and Vimentin in the Same Intermediate Filament System in Human Glioma Cells," <u>Proc. Natl. Sci. USA</u> 81(7):2102-2106 (Abstract only, 1984)
EL	Wang, Y et al., "Nucleotide Sequence of a Chromosomal Mercury Resistance Determinant from a <u>Bacillus</u> sp. With Broad-Spectrum Mercury Resistance," <u>J. Bacteriol.</u> 171(1):83-92 (1989)
EM	Weber, H. et al., "Formation of Genes Coding for Hybrid Proteins by Recombination Between Related, Cloned Genes in <u>E. Coli</u> ," <u>Nucleic Acids Research</u> 11(16): 5661-5669 (1983)

FORM PTO-1449 (Modified)		Attorney Docket No. 18097-020600	Serial No.:08/650,400
IST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: JEREMY MINSHULL et al.	
		Filing Date:05/20/96	Group: 1634
EN	Weaver, J.C. et al., "Microdrop Technology: A General Method for Separating Cells by Function and Composition," <u>Methods</u> 2:234-247 (1991)		
EO	Wehmeier, U.F., "New multifunctional <i>Escherichia coli</i> - <i>Streptomyces</i> shuttle vectors allowing blue-white screening on Xgal plates," <u>Gene</u> 165:149-150 (1995)		
EP	Zhao, X., "EPD, a novel technology for drug delivery," <u>Adv. Drug Delivery Rev.</u> 17:257-262 (1995)		
EQ	Zukowski, M.M. et al., "Chromogenic identification of genetic regulatory signals in <i>Bacillus subtilis</i> based on expression of a cloned <i>Pseudomonas</i> gene," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 80:1101-1105 (1983)		
ER	Zylstra, G.J. et al., "Cloning and Analysis of the Genes for Polycyclic Aromatic Hydrocarbon Degradation," <u>Ann. NY Acad. Sci.</u> 721:386-398 (1994)		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1449.WP 4/95
I:\raf\work\18097\20600\1449.ids

 6/29/01

FORM PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT
(Use several sheets if necessary)

Attorney Docket No.
18097-020600Serial No.:
08/650,400

Applicant: JEREMY MINSHULL et al.

Filing Date: 5/20/96

Group: 1807

PTO
S. 490643
0525
09/24/00
10525
09/24/00
01/01

Reference Designation

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
AA						
AB						
AC						
AD						
AE						
AF						
AG						
AH						
AI						
AJ						
AK						
AL						

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub-class	Translation (yes/no)
AM						
AN						
AO						
AP						
AQ						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR	Dieffenbach et al., <u>PCR Primer. A Laboratory Manual</u> , New York, Cold Spring Harbor Press, pp. 581-621 (1995)
AS	Higuchi, R., "Using PCT to Engineer DNA," <u>PCR Technology</u> , Erlich, H.A., ed., New York, Stockton Press, pp. 61-70 (1989)
AT	

EXAMINER

DATE CONSIDERED

6/29/01

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT
(Use several sheets if necessary)

Attorney Docket No.
16528J-020600Serial No.:
08/650,400

PTO

Applicant: JEREMY MINSHULL et al.

Filing Date: May 20,
1996

Group: Unassigned

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

52/09

Reference Designation

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
AA	4,994,368	02/19/91	Goodman, T. et al.	435	6	07/23/87
AB	5,043,272	08/27/91	Hartley, J.L.	435	91	04/27/89

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AC	Andersson, D. et al., "Muller's Ratchet Decreases Fitness of a DNA-based Microbe," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 93:906-907 (1996).
AD	Barrett, M. et al., "Genotypic Analysis of Multiple Loci in Somatic Cells by Whole Genome Amplification," <u>Nucleic Acids Research</u> 23:3488-3492 (1995).
AE	Cramer, A. et al., "Improved Green Fluorescent Protein by Molecular Evolution Using DNA Shuffling," <u>Nature Biotechnology</u> 14:315-319 (1996).
AF	Cramer, A. et al., "Construction and Evolution of Antibody-phage Libraries by DNA Shuffling," <u>Nature Medicine</u> 2:100-300 (1996).
AG	Feinberg, A. et al., "A Technique for Radiolabeling DNA Restriction Endonuclease Fragments to High Specific Activity," <u>Analytical Biochemistry</u> 132:6-13 (1983).
AH	Ho, S. et al., "Site-directed Mutagenesis by Overlap Extension Using the Polymerase Chain Reaction," <u>Gene</u> 77:51-59 (1989).
AI	Horton, R. et al., "Engineering Hybrid Genes Without the Use of Restriction Enzymes: Gene Splicing by Overlap Extension," <u>Gene</u> 77:61-68 (1989).
AJ	Levichkin, I.V. et al., "A New Approach to Construction of Hybrid Genes: Homolog Recombination Method," <u>Molecular Biology</u> 29:572-577 (1995).
AK	Pharmacia Catalog, "Recombinant Phage Antibody System: Mouse ScFv Module Expression Module Detection Module," p. 70-71, 1993 Edition.
AL	Ramos, J.L. et al., "The Behavior of Bacteria Designed for Biodegradation," <u>Bio/Technology</u> 12:1349-1355 (1994).
AM	Stemmer, W.P.C. et al., "Single-step Assembly of a Gene and Entire Plasmid from Large Numbers of Oligodeoxyribonucleotides," <u>Gene</u> 164:49-53 (1995).
AN	Stemmer, W.P.C., "Searching Sequence Space: Using Recombination to Search More Efficiently and Thoroughly Instead of Making Bigger Combinatorial Libraries," <u>Bio/Technology</u> 13:549-553 (1995).
AO	Stemmer, W.P.C., "Rapid Evolution of a Protein In Vitro by DNA Shuffling," <u>Nature</u> 370:389-391 (1994).
AP	Stemmer, W.P.C., "The Evolution of Molecular Computation," <u>Science</u> 270:1510 (1995).
AQ	Stemmer, W.P.C., "DNA Shuffling by Random Fragmentation and Reassembly: In Vitro Recombination for Molecular Evolution," <u>Proc. Natl. Acad. Sci. U.S.A.</u> 91:10747-10751 (1994).

EXAMINER

EWWZd

DATE CONSIDERED

6/29/91

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

0100-004

FORM PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT (Use several sheets if necessary)

Attorney Docket No.: 18097-014612US

Application No. 08/631859

Applicant: Stemmer et al.

Filing Date: March 25, 1996

Group: 1634

COPY

Page 1

Reference Designation

U.S. PATENT DOCUMENTS

Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
AA	5,965,408	10/12/99	Short			
AB	5,958,672	9/28/99	Short			
AC	5,939,250	8/17/99	Short			
AD	5,858,725	1/12/99	Crowe et al.			
AE	5,851,813	12/22/98	Desrosiers			
AF	5,714,316	2/3/98	Weiner et al.			
AG	5,556,772	9/17/96	Sorge et al.			
AH	5,502,167	3/26/96	Waldmann et al.			
AI	5,234,824	8/10/93	Mullis			
AJ	5,187,083	2/16/93	Mullis			
AK	5,176,995	1/5/93	Sninsky et al.			
AL	5,023,171	6/11/91	Ho et al.			
AM	4,965,188	10/23/90	Mullis et al.			
AN	4,800,159	1/24/89	Mullis et al.			
AO	4,683,202	7/28/87	Mullis			

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub-class	Translation: (Yes/No)
AP	WO 94/13804	6/23/94	WIPO			
AQ	WO 94/09817	5/11/94	WIPO			
AR	WO 94/03596	2/17/94	WIPO			
AS	WO 93/25237	12/23/93	WIPO			
AT	WO 93/18141	9/16/93	WIPO			
AU	WO 93/16192	8/19/93	WIPO			
AV	WO 93/15208	8/5/93	WIPO			
AW	WO 93/11237	6/10/93	WIPO			
AX	WO 93/06213	4/1/93	WIPO			
AY	WO 93/02191	2/4/93	WIPO			
AZ	WO 92/07075	4/30/92	WIPO			
BA	WO 91/06570	5/16/91	WIPO			
BB	WO 90/14430	11/29/90	WIPO			
BC	EP 552 266	n/a	Europe			

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

BD	Atreya et al., "Construction of in-frame chimeric plant genes by simplified PCR strategies," <i>Plant Mol. Biol.</i> , 19:517-522 (1992).
BE	Bock et al., "Selection of single-stranded DNA molecules that bind and inhibit human thrombin," <i>Nature</i> , 355:564-566 (February 2, 1992).

FORM PTO-1449 (Modified) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Attorney Docket No.: 18097-014612US	Application No.: 08/621,859
		Applicant: Stemmer et al.	
		Filing Date: March 25, 1996	Group: 1634
BF	Clackson et al., "Making antibody fragments using phage display libraries," <i>Nature</i> , 352:624-628 (August 15, 1991).		
BG	Crameri et al., "10(20)-Fold aptamer library amplification without gel purification," <i>Nuc. Acids Res.</i> , 21(18):4410 (1993).		
BH	Cull et al., "Screening for receptor ligands using large libraries of peptides linked to the C terminus of the lac repressor," <i>PNAS</i> , 89:1865-1869 (March 1992).		
BI	Cwirla et al., "Peptides on phage: A vast library of peptides for identifying ligands," <i>PNAS</i> , 87:6378-6382 (August 1990).		
BJ	Daugherty et al., "Polymerase chain reaction facilitates the cloning, CDR-grafting, and rapid expression of a murine monoclonal antibody directed against the CD18 component of leukocyte integrins," <i>Nuc. Acids Res.</i> , 19(9):2471-2476 (1991).		
BK	Delagrange et al., "Searching Sequence Space to Engineer Proteins: Exponential Ensemble Mutagenesis," <i>Biotechnology</i> , 11:1548-1552 (December 1993).		
BL	Dube et al., "Artificial mutants Generated by the Insertion of Random Oligonucleotides into the Putative Nucleoside Binding Site of the HSV-1 Thymidine Kinase Gene," <i>Biochemistry</i> , 30(51):11760-11767 (1991).		
BM	Ghosh et al., "Arginine-395 Is Required for Efficient in Vivo and in Vitro Aminoacylation of tRNAs by <i>Escherichia coli</i> Methionyl-tRNA Synthetase," <i>Biochemistry</i> , 30:11767-11774 (1991).		
BN	Goldman et al., "An Algorithmically Optimized Combinatorial Library Screened by digital Imaging Spectroscopy," <i>Biotechnology</i> , 10:1557-1561 (December 1992).		
BO	Harlow et al., "Construction of Linker-Scanning Mutations using the Polymerase Chain Reaction," <i>Methods in Mol. Biol.</i> , 31:87-96 (1994).		
BP	Heda et al., "A simple <i>in vitro</i> site directed mutagenesis of concatamerized cDNA by inverse polymerase chain reaction," <i>Nuc. Acids Res.</i> , 20(19):5241-5242 (1992).		
BQ	Ho et al., "DNA and Protein Engineering Using the Polymerase Chain Reaction: Splicing by Overlap Extension," <i>DNA and Protein Eng. Techniques</i> , 2(2):50-55 (1990).		
BR	Hodgson, "The Whys and Wherefores of DNA Amplification," <i>Biotechnology</i> , 11:940-942 (August 1993).		
BS	Horton et al., "Gene Splicing by Overlap Extension," <i>Mehtods in Enzymology</i> , 217:270-279 (1993).		
BT	Horton et al., "Gene Splicing by Overlap Extension: Tailor-Made Genes Using the Polymerase chain Reaction," <i>BioTechniques</i> , 8(5):528-535 (May 1990).		
BU	Jayaraman et al., "Polymerase chain reaction-mediated gene synthesis: Synthesis of a gene coding for isozyme c of horseradish peroxidase," <i>PNAS</i> , 88:4084-4088 (May 1991).		
BV	Jones et al., "A Rapid Method for Recombination and Site-Specific Mutagenesis by Placing Homologous ends on DNA Using Polymerase Chain Reaction," <i>BioTechniques</i> , 10(1): 62-66 (1991).		
BW	Joyce, G. F., "Directed Molecular Evolution," <i>Scientific American</i> , (December 1992).		
BX	Klug et al., "Creating chimeric molecules by PCR directed homologous DNA recombination," <i>Nuc. Acids Res.</i> , 19(10):2793 (1991).		
BY	Krishnan et al., "Direct and crossover PCR amplification to facilitate Tn5supF-based sequencing of λ phage clones," <i>Nuc. Acids Res.</i> , 19(22):6177-6182 (1991).		
BZ	Majumder, K., "Ligation-free gene synthesis by PCR: synthesis and mutagenesis at multiple loci of a chimeric gene encoding OmpA signal peptide and hirudin," <i>Gene</i> , 110:89-94 (1992).		
CA	Marks et al., "By-passing Immunization, Human Antibodies from V-gene Libraries Displayed on Phage," <i>J. Mol. Biol.</i> , 222:581-597 (1991).		
CB	McCafferty et al., "Phage antibodies: filamentous phage displaying antibody variable domains," <i>Nature</i> , 348:552-554 (December 6, 1990).		
CC	Morl et al., "Group II intron RNA-catalyzed recombination of RNA <i>in vitro</i> ," <i>Nuc. Acids Res.</i> , 18(22):6545-6551 (1990).		
CD	Mullis et al., "Specific Synthesis of DNA <i>in Vitro</i> via a Polymerase-Catalyzed Chain Reaction," <i>Methods in Enzymology</i> , 155:335-351 (1987).		

FORM PTO-1449 (Modified) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Attorney Docket No.: 18097-014612US	Application No.: 08/621,859
		Applicant: Stemmer et al.	
		Filing Date: March 25, 1996	Group: 1634
CE	Mullis et al., "Specific Enzymatic Amplification of DNA In Vitro: The Polymerase Chain Reaction," <i>Cold Spring Harbor Symposia on Quantitative Biology</i> , 51:263-273 (1986).		
CF	Nissim et al., "Antibody fragments from a 'single pot' display library as immunochemical reagents," <i>EMBO Journal</i> , 13(3):692-698 (1994).		
CG	Osuna et al., "Combinatorial mutagenesis of three major groove-contacting residues of Eco RI: single and double amino acid replacements retaining methyltransferase-sensitive activities," <i>Gene</i> , 106:7-12 (1991).		
CH	Paabo et al., "DNA Damage Promotes Jumping between Templates during Enzymatic Amplification," <i>J. Biol. Chem.</i> , 265(8):4718-4721 (March 15, 1990).		
CI	Saiki et al., "Diagnosis of sickle Cell Anemia and β-Thalassemia with Enzymatically Amplified DNA and Nonradioactive Allele-Specific Oligonucleotide Probes," <i>New England J. of Medicine</i> , 319(9):537-541 (September 1, 1988).		
CJ	Saiki et al., "analysis of enzymatically amplified β-globin and HLA-DQα DNA with allele-specific oligonucleotide probes," <i>Nature</i> , 324:163-166 (November 13, 1986).		
CK	Saiki et al., "Enzymatic Amplification of β-Globin Genomic Sequences and Restriction Site analysis for Diagnosis of Sickle Cell Anemia," <i>Science</i> , 230:1350-1354 (December 20, 1985).		
CL	Saiki et al., "Primer-Directed Enzymatic Amplification of DNA with a Thermostable DNA Polymerase," <i>Science</i> , 239:487-491 (January 20, 1988).		
CM	Sambrook et al., <i>Molecular Cloning, A Laboratory Manual</i> , Cold Spring Laboratory Press, Cold Spring Harbor, New York (1989).		
CN	Scharf et al., "Direct Cloning and Sequence Analysis of Enzymatically Amplified Genomic Sequences," <i>Science</i> , 233:1076-1078 (September 1986).		
CO	Scott et al., "Searching for Peptide Ligands with an Epitope Library," <i>Science</i> , 249:386-390 (July 20, 1990).		
CP	Sikorski et al., "In Vitro Mutagenesis and Planned Shuffling: From Cloned Gene to Mutant Yeast," <i>Methods in Enzymology</i> , 194:302-318 (1991).		
CQ	Smith et al., "Unwanted Mutations in PCR Mutagenesis: Avoiding the Predictable," <i>PCR Methods and Applications</i> , 2(3):253-257 (February 1993).		
CR	Villarreal et al., "A General Method of Polymerase-Chain-Reaction-Enabled Protein Domain Mutagenesis: Construction of a Human Protein S-Osteonectin Gene," <i>Analytical Biochem.</i> , 197:362-367 (1991).		
CS	Weisberg et al., "Simultaneous Mutagenesis of Multiple Sites: Application of the Ligase Chain Reaction Using PCR Products Instead of Oligonucleotides," <i>BioTechniques</i> , 15(1):68-70, 72-74, 76 (July 1993).		
CT	Weissenhorn et al., "Chimerization of antibodies by isolation of rearranged genomic variable regions by the polymerase chain reaction," <i>Gene</i> , 106:273-277 (1991).		
CU	Yao et al., "Site-directed Mutagenesis of Herpesvirus Glycoprotein Phosphorylation Sites by Recombination Polymerase Chain Reaction," <i>PCR Methods and Applications</i> , 1(3):205-207 (February 1992).		
CV	Yolov et al., "Constructing DNA by polymerase recombination," <i>Nuc. Acids Res.</i> , 18(13):3983-3986 (1990).		
CW	Yon et al., "Precise gene fusion by PCR," <i>Nuc. Acids Res.</i> , 17(12):4895 (1989).		
CX	Zoller, M.J., "New recombinant DNA methodology for protein engineering," <i>Curr. Opin. Biotech.</i> , 3:348-354 (1992).		
CY	Opposition Statement in matter of Australian Patent Application 703264 (Affymax Technologies NV), filed by Diversa Corporation on September 23, 1999.		

EXAMINER

DATE CONSIDERED

6/29/01

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)			Attorney Docket No.: 18097-014612US	Application No.: 08/621,859	
			Applicant: Stemmer et al.		
			Filing Date: March 25, 1996	Group: 1634	
Reference Designation		U.S. PATENT DOCUMENTS			Page 1
Examiner Initial <i>JW</i>	Document No.	Date	Name	Class	Sub-class
AA	5,679,522	10/21/97	Modrich et al.	7	7
AB	5,556,750	9/17/96	Modrich et al.	7	7
AC	5,489,523	2/6/96	Mathur		
AD	5,356,801	10/18/94	Rambosek et al.		
FOREIGN PATENT DOCUMENTS					
	Document No.	Date	Country	Class	Sub-class
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)					
AE	Andersson et al., "Muller's ratchet decreases fitness of a DNA-based microbe", <u>PNAS</u> , 93: 906-907 (January 1996).				
AF	Bailey, "Toward a Science of Metabolic Engineering", <u>Science</u> , 252: 1668-1680 (1991).				
AG	Barrett et al., "Genotypic analysis of multiple loci in somatic cells by whole genome amplification", <u>Nuc. Acids Res.</u> , 23(17): 3488-3492 (1995).				
AH	Cameron et al., "Cellular and Metabolic Engineering An Overview", <u>Applied Biochem. Biotech.</u> , 38: 105-140 (1993).				
AI	Chakrabarty, "Microbial Degradation of Toxic Chemicals: Evolutionary Insights and Practical Considerations", <u>ASM News</u> , 62(3): 130-137 (1996).				
AJ	Chater, "The Improving Prospects for Yield Increase by Genetic Engineering in Antibiotic-Producing Streptomyces", <u>Biotechnology</u> , 8: 115-121 (February 1990).				
AK	Chen et al., "Tuning the activity of an enzyme for unusual environments: Sequential random mutagenesis of subtilisin E for catalysis in dimethylformamide", <u>PNAS</u> , 90: 5618-5622 (June 1993).				
AL	Dieffenbach et al., <u>PCR Primer, A Laboratory Manual</u> , Cold Spring Harbor Laboratory Press, pgs. 583-589, 591-601, 603-612, and 613-621 (1995).				
AM	Evnin et al., "Substrate specificity of trypsin investigated by using a genetic selection", <u>PNAS</u> , 87: 6659-6663 (September 1990).				
AN	Fang et al., "Human Strand-specific Mismatch Repair Occurs by a Bidirectional Mechanism Similar to That of the Bacterial Reaction", <u>J. Biol. Chem.</u> , 268(16): 11838-11844 (June 5, 1993).				
AO	Ippolito et al., "Structure assisted redesign of a protein-zinc-binding site with femtomolar affinity", <u>PNAS</u> , 92: 5017-5021 (May 1995).				
AP	Kellogg et al., "Plasmid-Assisted Molecular Breeding: New Technique for Enhanced Biodegradation of Persistent Toxic Chemicals", <u>Science</u> , 214: 1133-1135 (December 4, 1981).				
AQ	Kunkel, "Rapid and efficient site-specific mutagenesis without phenotypic selection", <u>PNAS</u> , 82: 488-493 (January 1985).				
AR	Levichkin et al., "A New Approach to Construction of Hybrid Genes: Homolog Recombination Method", <u>Mol. Biology</u> , 29(5) part 1: 572-577 (1995).				
AS	Lewis et al., "Efficient site directed <i>in vitro</i> mutagenesis using ampicillin selection", <u>Nuc. Acids Res.</u> , 18(12): 3439-3443 (1990).				
AT	Moore et al., "Directed evolution of a <i>para</i> -nitrobenzyl esterase for aqueous-organic solvents", <u>Nature Biotech.</u> , 14: 458-467 (April 1996).				
AU	Omura, "Philosophy of New Drug Discovery", <u>Microbiol. Rev.</u> , 50(3): 259-279 (September 1986).				
AV	Piepersberg, "Pathway Engineering in Secondary Metabolite-Producing Actinomycetes", <u>Crit. Rev. Biotech.</u> , 14(3):251-285 (1994).				
AW	Prasher, "Using GFP to see the light", <u>TIG</u> , 11(8) (August 1995).				

FORM PTO-1449 (Modified)		Attorney Docket No.: 18097-014612US	Application No.: 08/621,859
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Stemmer et al.	
		Filing Date: March 25, 1996	Group: 1634
AX	Rice et al., "Random PCR mutagenesis screening of secreted proteins by direct expression in mammalian cells", <u>PNAS</u> , 89: 5467-5471 (June 1992).		
AY	Simpson et al., "Two paradigms of metabolic engineering applied to amino acid biosynthesis", <u>Biochem. Soc. Transactions</u> , vol. 23 (1995).		
AZ	Steele et al., "Techniques for Selection of Industrially Important Microorganisms", <u>Ann. Rev. Microbiol.</u> , 45: 89-106 (1991).		
BA	Stephanopoulos et al., "Metabolic engineering - methodologies and future prospects", <u>Trends Biotech.</u> 11: 392-396 (1993).		
BB	Stephanopoulos, "Metabolic engineering", <u>Curr. Opin. Biotech.</u> , 5: 196-200 (1994).		
BC	Wehmeier, "New multifunctional <i>Escherichia coli-Streptomyces</i> shuttle vectors allowing blue-white screening on XGal plates", <u>Gene</u> , 165: 149-150 (1995).		
EXAMINER	DATE CONSIDERED		6/18/01

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT (Use several sheets if necessary)

Attorney Docket No.: 18097-14612

Application No.: 08/621,859

Applicant: Stemmer et al.

Filing Date: March 25, 1996

Group: 1634

Reference Designation

U.S. PATENT DOCUMENTS

Page 1

Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)

FOREIGN PATENT DOCUMENTS

	Document No.	Date	Country	Class	Sub-class	Translatio n P Yes/No C P 01/24/90
lw AA	WO 95/17413	6/29/95	PCT			

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER *lw AA*DATE CONSIDERED *6/29/01*

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



FORM PTO-1449 (Modified) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)			Attorney Docket No.: 18097-14612	Application No.: 08/621,859		
			Applicant: Stemmer et al.			
			Filing Date: March 25, 1996	Group: 1634		
Reference Designation		U.S. PATENT DOCUMENTS			Page 1	
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If appropriate)
AA	5,824,485	10/20/98	Thompson et al.	7	7	PC 09/49/0643 01/24/00
AB	5,783,431	7/21/98	Peterson et al.	7		
AC	5,629,179	5/13/97	Mierendorf et al.	7		
FOREIGN PATENT DOCUMENTS						
	Document No.	Date	Country	Class	Sub-class	Transl. (Yes/No)
AD	WO 98/42832	10/1/98	PCT	7	7	
AE	WO 98/41653	9/24/98	PCT			
AF	WO 98/41623	9/24/98	PCT			
AG	WO 98/41622	9/24/98	PCT			
AH	WO 98/28416	7/2/98	PCT			
AI	WO 98/01581	1/15/98	PCT			
AJ	WO 97/35966	10/2/97	PCT			
AK	WO 97/25410	7/17/97	PCT			
AL	WO 97/20078	6/5/97	PCT			
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)						
AM	Fisch et al., "A Strategy Of Exon Shuffling For Making Large Peptide Repertoires Displayed On Filamentous Bacteriophage", Proc Natl Acad Sci USA, 93(15):7761-7766 (1996)					
AN	Marton et al., "DNA Nicking Favors PCR Recombination", Nucleic Acids Res., 19(9):2423-2426 (1991)					
AO	Winter et al., "Making Antibodies By Phage Display Technology", Ann. Rev. Immunol., 12:433-455 (1994)					
AP	Greener et al., "An Efficient Random Mutagenesis Technique Using An E. coli Mutator Strain", Methods in Molecular Biology, 57:375-385 (1995)					
EXAMINER	DATE CONSIDERED			6/29/01		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified) LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Attorney Docket No.: Applicant: Stemmer et al.		Application No.: 08/621,859		
		Filing Date: March 25, 1996		Group: 1634		
Reference Designation		U.S. PATENT DOCUMENTS				Page 1
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
<i>AA</i>	5,830,721	11/03/98	Stemmer et al.	7	7	PTO 01/24/00 JC525 U.S 643 09/49/01
<i>AB</i>	5,811,238	09/22/98	Stemmer et al.	7	7	
<i>AC</i>	5,763,192	06/09/98	Kauffman et al.	7	7	
<i>AD</i>	5,723,323	03/03/98	Kauffman et al.	7	7	
<i>AE</i>	5,814,476	09/29/98	Kauffman et al.	7	7	
<i>AF</i>	5,817,483	10/06/98	Kauffman et al.	7	7	
<i>AG</i>	5,824,514	10/20/98	Kauffman et al.	7	7	
<i>AH</i>						
<i>AI</i>						
<i>AJ</i>						
<i>AK</i>						
<i>AL</i>						
<i>AM</i>						
<i>AN</i>						
<i>AO</i>						
<i>AP</i>						
FOREIGN PATENT DOCUMENTS						
	Document No.	Date	Country	Class	Sub-class	Translation (Yes/No)
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)						
EXAMINER	<i>EW/AT</i>			DATE CONSIDERED	<i>6/29/01</i>	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)			Attorney Docket No.: 18097-146-1-2	Application No.: 08/621 859			
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)			Applicant: Stemmer et al.				
			Filing Date: March 25, 1996		Group: 1634		
Reference Designation		U.S. PATENT DOCUMENTS					Page 1
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)	
<i>hu</i> AA	5,316,935	05/31/94	Arnold et al.			5/31/94	
AB	5,834,252	11/10/98	Stemmer et al.			11/10/98	
AC	5,837,458	11/17/98	Minshull et al.			11/17/98	
FOREIGN PATENT DOCUMENTS							
	Document No.	Date	Country	Class	Sub-class	Translation (Yes/No)	
AD	WO 91/07506	05/30/91	PCT				
AE	WO 91/15581	10/17/91	PCT				
AF	WO 91/16427	10/31/91	PCT				
AG	WO 95/22625	08/24/95	PCT				
AH	WO 96/33207	10/24/96	PCT				
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
AI	Balint et al., "Antibody Engineering By Parsimonious Mutagenesis", <u>Gene</u> , 137(1):109-118 (1993)						
AJ	Bartel et al., "Isolation of New Ribozymes From a Large Pool of Random Sequences", <u>Science</u> , 261:1411-1418 (1993)						
AK	Crameri et al., "Combinatorial Multiple Cassette Mutagenesis Creates All The Permutations Of Mutant And Wild-Type Sequences", <u>Biotechniques</u> , 18(2):194-196 (1995)						
AL	Crameri et al., "Improved Green Fluorescent Protein By Molecular Evolution Using DNA Shuffling", <u>Nat. Biotechnol.</u> , 14(3):315-319 (1996)						
AM	Crameri et al., "Construction And Evolution Of Antibody-Phage Libraries By DNA Shuffling", <u>Nat. Med.</u> , 2(1):100-102 (1996)						
AN	Crameri et al., "Molecular Evolution Of An Arsenate Detoxification Pathway By DNA Shuffling", <u>Nat. Biotechnol.</u> , 15(5):436-438 (1997)						
AO	Crameri et al., "DNA Shuffling Of A Family Of Genes From Diverse Species Accelerates Directed Evolution", <u>Nature</u> , 391(3664):288-291 (1998)						
AP	Gates et al., "Affinity Selective Isolation Of Ligands From Peptide Libraries Through Display On A Lac Repressor 'Headpiece Dimer'", <u>J. Mol. Biol.</u> , 255(3):373-386 (1996)						
AQ	Gram et al., "In Vitro Selection and Affinity Maturation of Antibodies From a Naïve Combinatorial Immunoglobulin Library", <u>Proc. Natl. Acad. Sci. USA</u> , 89:3576-3580 (1992)						
AR	Near, "Gene Conversion Of Immunoglobulin Variable Regions In Mutagenesis Cassettes By Replacement PCR Mutagenesis", <u>Biotechniques</u> , 12(1):88-97 (1992)						
AS	Perlak, "Single Step Large Scale Site-Directed In Vitro Mutagenesis Using Multiple Oligonucleotides", <u>Nucleic Acids Res.</u> , 18(24):7457-7458 (1990)						
AT	Stemmer, "Searching Sequence Space", <u>Biotechnology</u> , 13:549-553 (1995)						
AU	Stemmer et al., "Single-Step Assembly Of A Gene And Entire Plasmid From Large Numbers Of Oligodeoxyribonucleotides", <u>Gene</u> , 164(1):49-53 (1995)						
AV	Stemmer, "The Evolution of Molecular Computation", <u>Science</u> , 270(5241):1510 (1995)						
AW	Stemmer, "Sexual PCR and Assembly PCR" <u>Encyclopedia Mol. Biol.</u> , VCH Publishers, New York, pp. 447-457 (1996)						
AX	Weber et al., "Formation of Genes Coding for Hybrid Proteins by Recombination Between Related, Cloned Genes in E. Coli," <u>Nucleic Acids Research</u> , 11(16):5661-5669 (1983)						
AY	Weisberg et al., "Simultaneous Mutagenesis Of Multiple Sites: Application Of The Ligase Chain Reaction Using PCR Products Instead Of Oligonucleotides", <u>BioTechniques</u> , 15(1):68-76 (1993)						

FORM PTO-1449 (Modified)		Attorney Docket No.: 18097-146-1-2	Application No.: 08/621,859
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)			
<u>ent</u> AZ	Zhang et al., "Directed Evolution Of A Fucosidase From A Galactosidase By DNA Shuffling And Screening", <u>Proc. Natl. Acad. Sci. USA</u> , 94(9):4504-4509 (1997)		
<u>J</u> BA	Zhao et al., "Molecular Evolution by Staggered Extension Process (StEP) In Vitro Recombination", <u>Nature Biotech.</u> , 16:258-261 (1998)		
EXAMINER <u>ewon</u>	DATE CONSIDERED <u>6/29/01</u>		

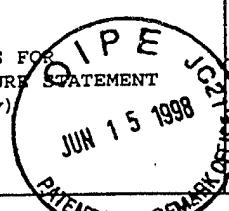
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PA 177746 v1

FORM PTO-1449 (Modified)		Attorney Docket No. 018097-014612US	Serial No.: 08/621,859			
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Stemmer and Crameri JUN 15 1998 Filing Date: March 25, 1996 Group: 1807				
Reference Designation U.S. PATENT DOCUMENTS						
Examiner Initial	Document No.	Date	Name	Class	Sub-class	Filing Date (If Appropriate)
EW AA	4,994,368	02/19/91	Goodman et al.	T	T	
AB	5,043,272	08/27/91	Hartley			
AC	5,093,257	03/03/92	Gray			
AD	5,223,408	06/29/93	Goeddel et al.			
AE	5,279,952	01/18/94	Wu			
AF	5,360,728	12/01/94	Prasher			
AG	5,521,077	05/28/96	Khosla et al			
AH	5,541,309	07/30/96	Prasher			
AI	5,605,793	02/25/97	Stemmer			
AJ	5,652,116	07/29/97	Grandi et al.			
FOREIGN PATENT DOCUMENTS						
	Document No.	Date	Country	Class	Sub-class	Translation (yes/no)
EW AK	EP 252666 B1	01/13/88	Europe	T	T	
AL	WO 90/07576	07/12/90	PCT	-	T	
AM	WO 91/01087	02/07/91	PCT	-		
AN	WO 95/17413	06/29/95	PCT	-		
AO	WO 97/07205	02/27/97	PCT	-		
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)						
EW AP	Arkin et al., "An algorithm for protein engineering: Stimulation of recursive ensemble mutagenesis" <u>Proc. Natl. Acad. Sci. USA</u> 89:7811-7815 (1992).					
AQ	Beaudry et al., "Directed evolution of an RNA enzyme" <u>Science</u> 257:635-641 (1992).					
AR	Berger et al. "Phoenix mutagenesis: One-step reassembly of multiply cleaved plasmids with mixtures of mutant and wild-type fragments" <u>Anal. Biochem.</u> 214:571-579 (1993).					
EXAMINER	DATE CONSIDERED			4/9/98		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)

Attorney Docket No.
018097-014612USSerial No.:
08/621,859LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE STATEMENT
(Use several sheets if necessary)

Applicant: Stemmer and Crameri

Filing Date:
March 25, 1996Group:
1807

Reference Design OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

Examiner Initial						
EM AS	Berkhout et al. "In vivo selection of randomly mutated retroviral genomes" <u>Nucleic Acids Res.</u> 21:5020-5023 (1993).					
AT	Cadwell et al. "Randomization of genes by PCR mutagenesis" <u>PCR Methods and Applications</u> 2:28-33 (1992).					
AU	Calogero et al. "In vivo recombination and the production of hybrid genes" <u>Microbiol. Lett.</u> 97:41-44 (1992).					
AV	Caren et al. "Efficient sampling of protein sequence space for multiple mutants" <u>Biotechnology</u> 12:517-520 (1994).					
AW	Delagrange et al. "Recursive ensemble mutagenesis" <u>Protein Engineering</u> 6:327-331 (1993).					
AX	Feinberg and Vogelstein "A technique for radiolabeling DNA restriction endonuclease fragments to high specific activity" <u>Anal. Biochem.</u> 132:6-13 (1983).					
AY	Heim et al. "Wavelength mutations and posttranslational autoxidation of green fluorescent protein" <u>Proc. Natl. Acad. Sci. USA</u> 91:12501-12504 (1994).					
AZ	Hermes et al. "Searching sequence space by definably random mutagenesis: Improving the catalytic potency of an enzyme" <u>Proc. Natl. Acad. Sci. USA</u> 87:696-700 (1990).					
AAA	Ho et al. "Site-directed mutagenesis by overlap extension using the polymerase chain reaction" <u>Gene</u> 77:51-59 (1989).					
AAB	Horton et al. "Engineering hybrid genes without the use of restriction enzymes: Gene splicing by overlap extension" <u>Gene</u> 77:61-68 (1989).					
AAC	Jones et al. "Recombinant cicle PCR and recombination PCR for site-specific mutagenesis without PCR product purification" <u>BioTechniques</u> 12:528-530, 532, 534-535 (1992).					
AAD	Kim et al. "Human immunodeficiency virus reverse transcriptase" <u>J. Biol. Chem.</u> 271:4872-4878 (1996).					
AAE	Leung et al. "A method for random mutagenesis of a defined DNA segment using a modified polymerase chain reaction" <u>Techniques</u> 1:11-15 (1989).					

EXAMINER

GTC

DATE CONSIDERED

7/9/98

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 (Modified)		Attorney Docket No. 018097-014612US	Serial No.: 08/621,859
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant: Stemmer and Crameri	
		Filing Date: March 25, 1996	Group: 1807
<p style="text-align: center;">Reference Designations (Include Author, Title, Date, Pertinent Pages, Etc.)</p>			
Examiner Initial			
✓ JH AAF	Marks et al. "By-passing immunization: Building high affinity human antibodies by chain shuffling" <u>Bio/Technology</u> 10:779-782 (1992).		
✓ AAG	Meyerhans et al. "DNA recombination using PCR" <u>Nucleic Acids Res.</u> 18:1687-1691 (1990).		
✓ AAH	Oliphant et al. "Cloning of random-sequence oligodeoxynucleotides" <u>Gene</u> 44:177-183 (1988).		
✓ AAI	Pharmacia Catalog pp. 70-71 (1993 Edition).		
✓ AAJ	Pompon et al. "Protein engineering by cDNA recombination in yeasts: Shuffling of mammalian cytochrome P-450 functions" <u>Gene</u> 83:15-24 (1989).		
✓ AAK	Reidhaar-Olson et al. "Combinatorial cassette mutagenesis as a probe of the informational content of protein sequences" <u>Science</u> 241:53-57 (1988).		
✓ AAL	Roa et al. "Recombination and polymerase error facilitate restoration of infectivity in brome mosaic virus" <u>J. Virol.</u> 67:969-979 (1993).		
✓ AAM	Stemmer et al. "Selection of an active single chain Fv antibody from a protein linker library prepared by enzymatic inverse PCR" <u>BioTechniques</u> 14:256-265 (1992).		
✓ AAN	Stemmer et al. "Rapid evolution of a protein in vitro by DNA shuffling" <u>Nature</u> 370:389-391 (1994).		
✓ AAO	Stemmer et al. "DNA shuffling by random fragmentation and reassembly: In vitro recombination for molecular evolution" <u>Proc. Natl. Acad. Sci. USA</u> 91:10747-10751 (1994).		
EXAMINER	DATE CONSIDERED 7/9/98		

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Notice of References Cited		Application No. 08/650,400	Applicant(s) <i>Minshull et al.</i>		
		Examiner <i>Whisenant, E.</i>	Group Art Unit 1807	Page 1 of 2	
U.S. PATENT DOCUMENTS					
DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	
A 5,605,793	25 FEB 97	Stemmer	✓	435	6
B 5,521,077	28 MAY 96	Khosla et al.	✓	435	172.3
C 5,489,523	6 FEB 96	Mathur	✓	435	194
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
FOREIGN PATENT DOCUMENTS					
DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N					
O					
P					
Q					
R					
S					
T					
NON-PATENT DOCUMENTS					
DOCUMENT (Including Author, Title, Source, and Pertinent Pages)					DATE
Kunkel, Proc. Natl. Acad. Sci. (USA) 82 : 488-492 (1992).					✓
U					
Lewis et al., Nucleic Acids Research 18(12) : 3439-3443 (1990).					✓
V					
Rice et al., Proc. Natl. Acad. Sci. (USA) 89 : 5467-5471 (1992).					✓
W					
Ippolito et al., Proc. Natl. Acad. Sci. (USA) 92 : 5017-5021 (MAY 1995).					✓
X					

JC525 U.S. PTO
05/49/96 13
01/24/98



Notice of References Cited		Application No. 08/650,400	Applicant(s) Minshull et al.
		Examiner Whisenant, E. <i>Ernest</i> 4/29/01	Group Art Unit 1807
		Page 2 of 2	

U.S. PATENT DOCUMENTS

	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					

FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
u	Prasher, Trends in Genetics 11(8) : 320-323 (AUG 1995).	
v	PCR Primer "A laboratory Manual" Eds. Dieffenbach and Dveksler, Cold Spring Harbor Laboratory Press, 1995, pp.583-621.	
w		
x		